INTEGRATING SUSTAINABILITY INTO STRATEGY AND INNOVATION

A FORESIGHT-INSPIRED SYSTEMATIC APPROACH FOR BUSINESSES

Dr. Bernhard Albert

ABSTRACT *– What is needed by businesses for robust and sustainable development is an approach which encompasses the integral and participatory identification and evaluation of environmental developments and the integration of the results into day-to-day business. Participatory processes are a good basis. They make it possible to integrate the necessary actors at an early stage and to reduce resistance to change. At the same time, they strengthen foresight capabilities and promote a holistic view of the organisation and its activities. During these processes, internal perceptions of corporate frameworks and external environments can be reconciled with the insights of external experts. This makes it possible to identify the most influencing and most influenced general developments, blind spots, and company-specific trends. Subsequently, the results can be mapped on trend landscapes and rated in trend radars. The latter are fundamental for developing strategies, assessing risks, identifying business opportunities, and initialising innovation processes. In a crucial final stage, the results have to be communicated, transferred to existing structures and processes, and continuously updated, e.g. by adding further layers to road maps, project management and product planning. An accompanying evaluation restarts the process by determining successes and changes and by providing a fresh perspective on inner and outer environments. The article ends with a brief case study on the successful implementation of such a process in a German based road groupage network.*

1. An Academic Illusion

In my ten years as an advisor and facilitator for futures research and foresight methodology, I have repeatedly witnessed that companies try to get a grip on the future by commissioning future studies or scenarios or booking foresight, strategy or innovation workshops. Unfortunately, however, this approach often is not crowned with success. Recommended measures are not implemented and the results are not or only to a limited degree communicated within the organisation. As a consequence, they are neither incorporated into strategy and innovation processes, nor into product development or change management. The situation is similar for sustainability. Here, too, businesses commission surveys, kick off certification processes, and develop sustainability reports. All too often, these are used only for external communication, without leading to real change within. As a result, companies not only achieve far less than would have been possible, but also far less than what would have been expedient for

themselves – both in day-to-day business and with a view to their own future and their own markets. Businesses which lack a clear focus on sustainability are called out for greenwashing by the media and the general public, and enterprises that fail to focus sufficiently on the future are considered to be in danger of decreasing innovativeness. For the scientific community and expert advisors, the fact that their work is often neglected or only insufficiently used and implemented remains a bitter pill to swallow.

It goes without saying that it is never wrong to observe the world with scientific means critically and forward-looking and to pass on the resulting knowledge. But it would be wrong to consider this process a one-way street. A significant part of the academic community remains convinced that executives and managers would only need some to be lectured to do their work better. Others would go so far as to consider scientists and researchers better entrepreneurs as a result of their competencies and knowledge. But experts for foresight and sustainability, in particular, should be aware that foresight and sustainability require not only specialist knowledge, but also a deeper understanding, a special attitude, and clear convictions. What is necessary for business leaders is to change their mindsets – and scientists working for and within companies will go the way of the dodo unless they change their mindsets, too.

Experience shows that foresight and sustainability play a prominent role in businesses especially if executives and employees are integrated as partners into processes of research, design, and innovation. In particular if the scientific approach and the concept of foresight and sustainability were tried out and understood in open debates were results transferred to the envisioned degree into structures and processes.

2. Foresight leads to sustainability

Thesis: Foresight is a capability combining knowledge, experience, attitude, and possibly wisdom or a well-honed intuition.

I would like to begin by explaining the principles of foresight and the steps leading from foresight to sustainability. These steps are based on the maturity model of foresight developed by Dr. Richard Slaughter (Slaughter 1996: 14 / Slaughter 1999). I have changed details on Levels four and five to emphasise how sustainability can be considered a result of foresight. This is particularly the case if we consider foresight not only an option to foresee opportunities but simultaneously an opportunity to avoid risk and to let us and our business survive over longer periods. In his maturity model, he defines five steps from unreflective use of forward thinking in daily life to long-term thinking as a social norm.

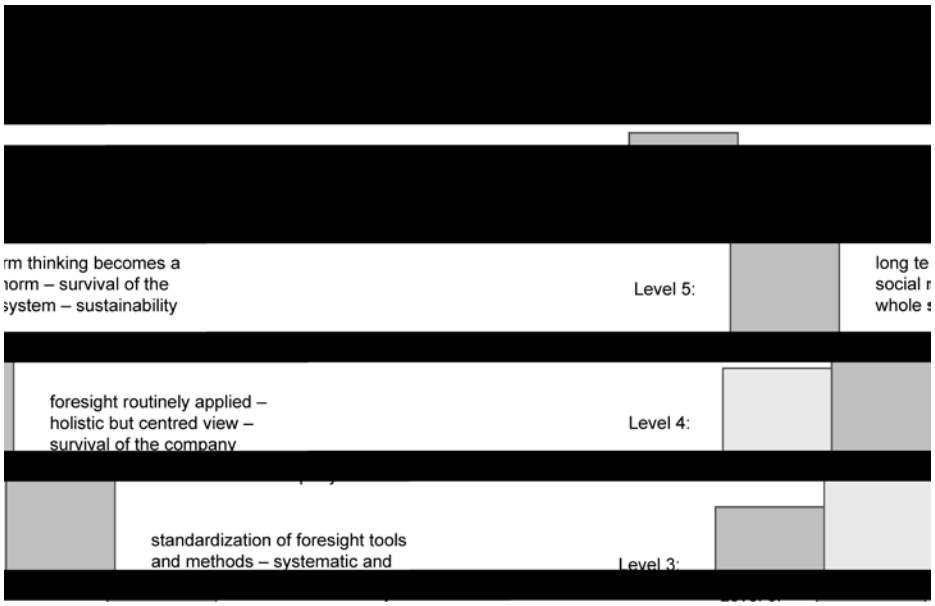

Figure 1. Futures studies – from individual to social capacity and to a holistic perspective

1. The most basic level of foresight is a skill we all have: Foresight as forward-looking thinking based on experience, e.g. packing an umbrella, business cards, or a Swiss knife because you might need them.
2. The next step in the development of foresight is a societal discourse on future, future concepts, and basic approaches to designing the future. In the private sphere this includes activities like decisions about building homes, childbearing preferences, or apprenticeship paths.
3. The third stage is a systematic and methodical way of anticipation. This is the basis of planning. It is at this level that people try to structure their lives and business actions; they think about the future systematically and highly structured, and make decisions based on ideas about the future or wishes for the future.
4. The fourth step brings a difference. At this level, people look beyond past experiences, they consider the situation holistically, and often integrate the knowledge of employees, customers, and experts to achieve a broad overview of possible developments. Sustainability, however, is only considered with a focus on the company as such. Leaders look at if and how their business may survive under given circumstances and which options they have to shape their own future.
5. It is only with the fifth and final step that we reach the level where foresight and sustainability find each other. Here, sustainability goes much beyond 'gazing at your own navel'. In this stage, participation and communication are of supreme importance: horizons have to be widened and underlying connections deciphered, change processes initiated and driven forward together. Here, we assure the survival of ecosystems, the protection of the environment and of mankind and secure our livelihood on planet earth. So in the fifth and final level of foresight, the focus is on the survival of the whole system.

Germany's former president Roman Herzog put it thus in 1997: "Gazing at your own navel will not yield in anything new. [...] We have to become parts of a learning global society which searches around the world for the best ideas and solutions" (Herzog 1997).

3. How do we arrive at big picture?

A business exercising foresight has to examine all major trends or future developments and determine which of these impact on its future. Here, structured analysis is indispensible. A key approach to structuring a company's environments is to define them in terms of distance and influence.

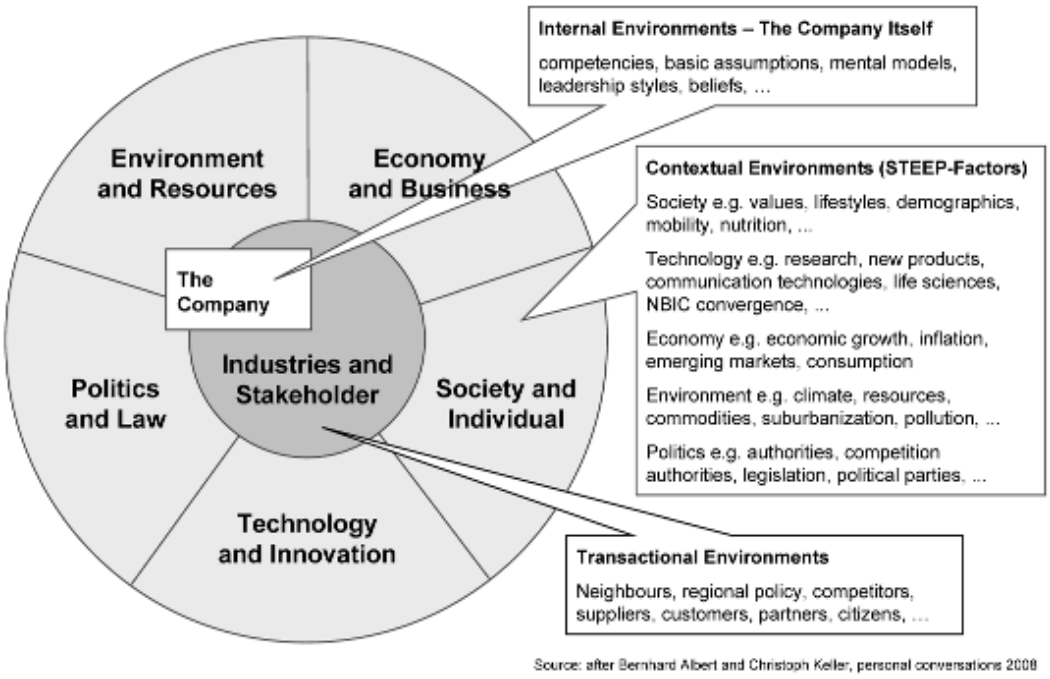

Figure2. Business Environments

First – the contextual environments. Referred to as PEST factors (Politics, Economy, Society, Technology) in business but more commonly called STEEP factors (Society, Technology, Economy, Environment, Politics), with the extra 'E' denoting natural environments, natural resources, and raw materials. All factors influence business and the company as such. The company, on the other hand, has little or no influence on these environments. Businesses may only react to factors such as climate, weather, peak oil, or the demographic transition.

Second – the transactional environments. The second type of environments consists of organisations and people related to the company. Its foundations are negotiations and written as well as unwritten contracts. Companies are able to influence these environments. However, they have to be aware that the ability to influence is mutual. The transactional environments can be shaped by reaction and proaction.

Third – the internal environment – the company itself. Most business leaders believe that this is an environment they fully control. However, competences, values, beliefs, traditions, and other drivers heavily influence and shape this environment. We all know how difficult it is to rethink one's value system and to say goodbye to accustomed paradigms and entrenched behavioural patterns in order to acquire new skills and take new paths. It is not without reason that change management is one of the most demanding challenges for companies.

4. The Pillars of Sustainability

Sustainability is not only the challenge to act ecologically, it is a core attitude which integrates economic, ecologic, social, and cultural aspects.

According to Paech (2005, 92ff) the popular three-pillars-model of sustainability, which is commonly interpreted in two ways, is not sufficient. According to one of the two approaches, actions are only sustainable if they fall into the intersection of all three pillars and are hence considered to be economically, ecologically, and socially sustainable. The other interpretation makes economic sustainability a precondition for any sustainable activity, granting the former pre-eminence over the other two pillars.

Whether or not sustainability economically benefits commerce as a whole or an individual company should not be a factor for, and much less a knock-out criteria on sustainability. In terms of sustainability, it may make sense to reduce the wasting of resources by targeted interventions and limitations, even including shutting down companies.

If, however, we consider sustainability to be an integral corporate task, we have every right to say that ecologic, social, and also cultural sustainability are strongly interdependent, and that sustainability as an overall concept cannot be implemented unless economic sustainability is achieved within the company's context.

The fourth pillar. Social sustainability is mostly interpreted only in terms of 'public spirited' where education and labour are concerned, and in the sense of fair wages and a just distribution of resources. Other crucial practices which contribute to maintaining and stabilising society are ignored, e.g. the opportunity to participate socially and politically or the evolution of social value systems, as well as the protection of cultures, languages, traditions, and lifestyles. To emphasise the relevance of cultural sustainability – which always includes the public discourse on sustainability – the three-pillars-model should be extended to include a fourth pillar of cultural sustainability.

Economic sustainability posits that the company act in an economical manner, securing its survival and continued success. Furthermore, economic sustainability means avoiding destructive actions within the company environments which could result in overtaxing the financial capabilities of the company or risk destroying the very basis of the business itself.

Ecologic sustainability means keeping the natural environment intact by avoiding actions which reduce or risk the survivability of ecosystems or compromise the survivability of humanity, whether through pollution, climate change, reducing biodiversity, or an inefficient protection of resources and commodities.

Societal sustainability means – in particular – to pay fair wages, to empower employees, to avoid injustice, and to contribute to a compassionate society worth living in. It includes opportunities for education and the just distribution of property, income, and resources.

Cultural sustainability means participation, acceptance and protection of cultures and lifestyles, in particular within the company's environments, its field of action. It also includes advancing cultural change towards sustainable ways of living. Ultimately, sustainability is impossible unless one recognises the ambivalence of change and the need to protect cultures.

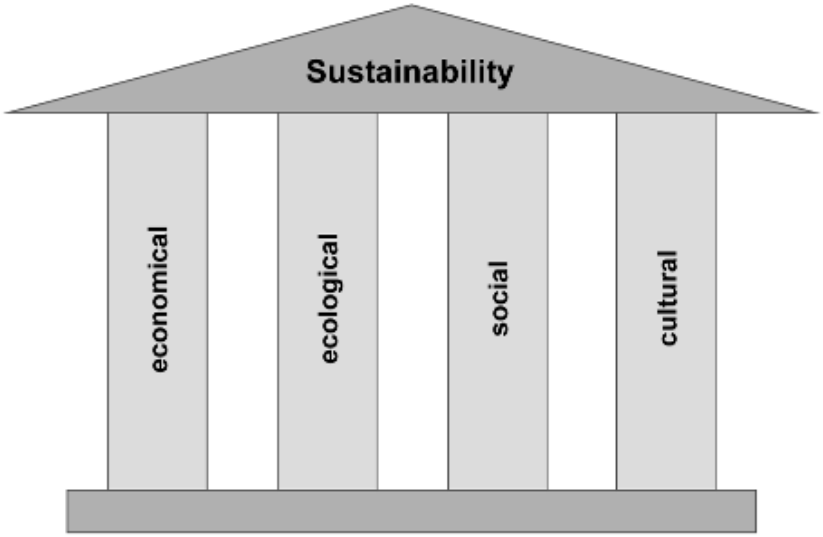

Figure 3. Pillars of sustainability – four rather than three (Source: Author)

On the road to develop sustainability, foresight is a core capability. Foresight – and the associated holistic perspective – make it possible to understand more deeply and fundamentally the drivers of developments, their frameworks, inner structures, and their wide-ranging network of interdependencies, amplifications, and impairments. It is only in this way that we may identify the key levers which make comprehensive changes possible.

5. Systematic Integration of Foresight and Sustainability

If one discusses the concept of foresight with a view to Slaughter's maturity model, it becomes evident that foresight should not be left to individuals and experts. Some indications come from, in addition to prior studies, the results of the empirical survey "Zukunftsmanagement als Erfolgsfaktor für die Investitionsgüterindustrie"[1] (Gleich, Schneider & Tyssen 2010). This study undoubtedly shows that key contributions to the success of foresight activities come from top executives clearly committing themselves to foresight activities, transparent communication of long-term objectives, both vertically and horizontally, a corporate culture focused on integration, participation of employees in innovation and change processes, and the acceptance of external knowledge.

[1] Translation: Managing the Future as a Success Factor in the Capital Goods Industry

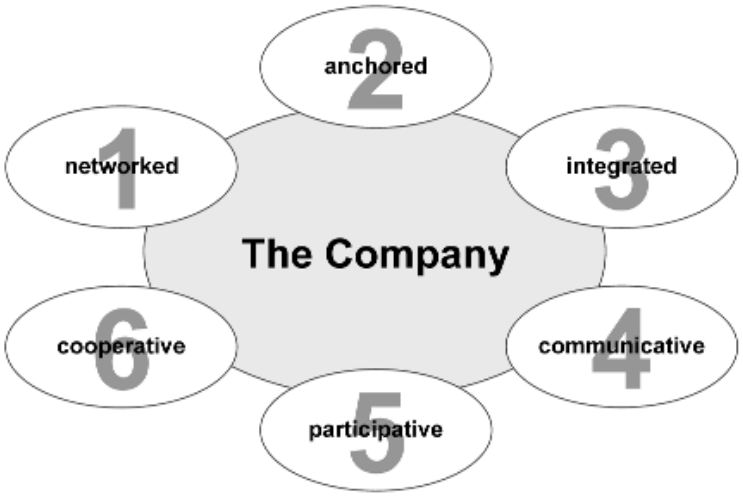

Figure 4. The ideal of foresight in companies (Source: Author)

If we carry this thought through, we have to conclude that the same is true for all issues which concern sustainability. Similar to foresight, sustainability is a question of communication culture, participation, use of expertise, and systematic, purpose-driven design. In other words: the concepts of foresight and sustainability will be successful in the corporate environment especially where external and internal knowledge is integrated to the same degree, and where the highest number of employees is actively surveyed, informed, and involved across hierarchy levels. Likewise, the results of foresight processes and the stages of the process itself have to be systematically integrated into day-to-day business processes, just as the concept of sustainability and its analogous tasks. One model is the control circuit below, which may be used as an example. In practice, a larger number of control circuits and processes follow each other, build on each other, and depend on each other. Methodically, there is a wide range of options for each step of the control circuit – but essential in every stage is communication, consciously shown below as the hub in the centre of the control circuit, and participation during the processes. Without these two factors, many efforts will remain fruitless or have considerably lower impacts.

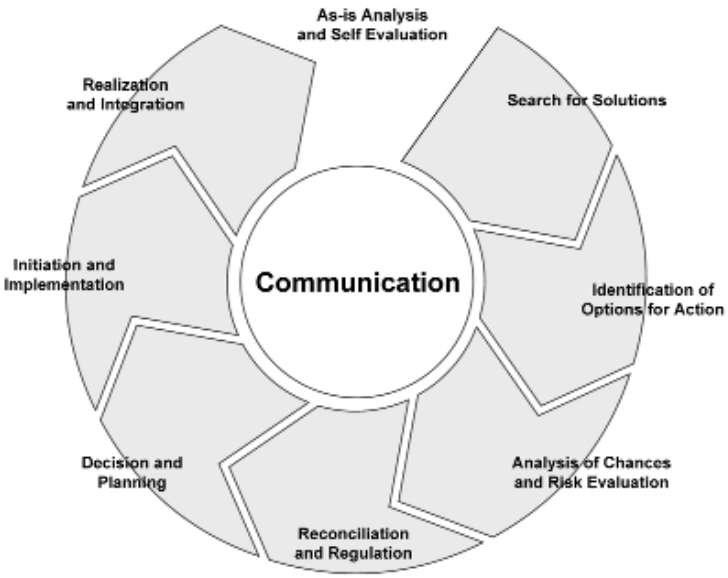

Figure 5. Foresight as control loop (Source: Author)

That communication, networking, and embedding of foresight are crucial for its success in companies is also emphasised in the maturity model by Rohrbeck (Rohrbeck 2011: 71ff). By showing the corresponding issues along the time line, foresight and sustainability can be systematically integrated into linear follow-up processes such as planning, project management, and roadmapping (cf. Behrendt 2007) – e.g. in the areas of product development, innovation, change management and strategy. Just as possible technology developments, fluctuating access to resources, social and legal changes, and sustainability issues can be systematically integrated. In this way, foresight and sustainability will be constantly executed in processes and in reasoning, and increase in relevance in decision-making and business processes.

6. The Foresight Process at System Alliance – a Brief Presentation

System Alliance is a German based national road groupage network, established by a cooperation of SMEs with eleven associates – international and national providers – and four so-called system partners. In view of the dynamic and often difficult to understand fluctuations in the logistics markets, recurring economic crises with global impacts, intensifying requirements as regards resource efficiency and climate protection, demographic change with ageing populations and workforces and an increasing lack of skilled labour, the network decided to take a more systematic look at the future and make itself and the involved businesses more future-oriented. Both internal and external knowledge was to be integrated in the most efficient way possible. In addition to higher executives, decision-makers and employees from all divisions, including dispatching and handling, were to be involved. The network commissioned a team of external experts with widely varying specialist areas. Prof. Dr. Thomas Krupp of the European University of Applied Sciences (Brühl) was engaged as an expert for logistics, Dr. Heiko von der Gracht of the Center for Futures Studies CEFU of the European Business School (Wiesbaden) as an expert for supply chain management and foresight for logistics, Uwe Berndt as a specialist for internal and external communication, and Dr. Bernhard Albert (Foresight Solutions) as a political scientist and expert for extensive and participative foresight. This diverse team of scientists was responsible for concepting and implementing the process, and scientific guidance throughout its run. The selected process reached wide into the network's environments and, at the same time, deep into the organisation as such. The aim was identify relevant developments for the next ten to fifteen years in order to prepare for these using adequate measures. A participative process which had been internally intensively communicated and coordinated was to lead to this goal. The results were to be published (Albert et al. 2011).

The process had been designed to last one year and run in six stages. In the first stage, external insights were collected from the scientific community and the logistics industry. The team collected, selected, and analysed existing futures and scenario studies with an emphasis on logistics and its environments. More than 900 trends were registered, systematised, and clustered. In the second stage, the team conducted interviews with owners and managing directors, focusing on perceived and expected developments in contextual, transactional and internal environments. This was followed, in the third stage, by workshops involving the associates' and partners' executives. Topics included not only future issues of the respective companies and divisions, but also options for reactions and actions. The results of this internal survey of existing, yet often still to be broadened forward-looking knowledge were, in the

fourth stage, collected and reconciled with the trends of the external foresight studies to find consensus and identify blind spots. Ultimately, 38 trends resulted which were highly relevant for logistics and System Alliance. These were then used as the basis of an online survey with some 300 respondents from all divisions and across all corporate hierarchies. They were asked to assess the trends based on their relevance for the network. Simultaneously, they had the opportunity to suggest, as had the workshop participants before, options for reactions and actions to the trends and name further trends and future issues. In the sixth stage, the results of the survey were analysed and, based on the existing suggestions and the experts' considerations, summarised to measures by the experts' team. These measures were either specific reactions to the changes evident or expected in the environments, or were intended to be used in the development of analogous responses.

The beginning of change and innovation: As a first reaction, the cooperation opted for five of these measures:

1. Making futures workshops a permanent feature. Foresight studies are to be systematically collected and analysed, supplemented by further interviews, workshops, and surveys with more focused questions based on the results of the previous round.
2. Measures for human resource development, among others as a reaction to the demographic transition and the growing challenges of the knowledge society.
3. Development of application concepts for green logistics with a view to greater sustainability and resource efficiency.
4. An annual Future Camp and innovation workshops as opportunities to develop new answers to emerging challenges in the environments as well as innovation products and new processes, and kick off cultural changes.
5. The development of a systematic shared strategy process, with a common vision, common objectives and tools to plan and manage relevant business processes.

Similar to the previous process, the focus is on participation and communication to increase foresight capability and innovativeness.

Almost more striking than the process with its highly effective design were the future issues emerging within the cooperation. First and foremost, this was sustainability with its social, ecological, cultural, and economic aspects which were not only listed in the area of environment and resources (STEEP), but were also extremely frequent in other areas of the analysis, ranging from society and individuals to technology and innovation and finally economy and business as well as industry trends in logistics. These include demographic transition and its corresponding effects, increased value orientation leading to growing demands made on and within businesses, increasing numbers of regulations and standards, relevance of certifications and life-cycle assessments, globalisation with its growing global interdependencies, the increasing relevance of renewables for manufacturing and vehicles, the higher significance of innovative traffic concepts, or the increasing economic volatility which makes higher demands on businesses as regards risk management and stability.

This is evidence of the close link between foresight and sustainability. The latter almost always gains crucial prominence when a company's environments are systematically and comprehensively examined and the company sets its sights on the mid- to long-term future. It is rarely the survival of the company alone which comes into the focus of those participating in the process, rather, highest priority is given to the continued existence of the contextual environment. This may be a sign that a large number of

companies already consider the sustainability issue to be essential for survival, and that sustainability and the affiliated value systems have key significance for businesses, executives, and employees, in particular in SMEs.

In a nutshell, participation and communication in foresight processes seem to lead from foresight to true sustainability. This will have to be researched in more detail in the future.

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Editors

Hanna Lakkala
M.Sc., Project Coordinator/Researcher
Finland Futures Research Centre, University of Turku
hanna.k.lakkala@utu.fi

Jarmo Vehmas
Ph.D., Regional Manager
Finland Futures Research Centre, University of Turku
jarmo.vehmas@utu.fi

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Finland Futures Research Centre
University of Turku
ElectroCity, Tykistökatu 4 B, FI-20014 University of Turku
Korkeavuorenkatu 25 A 2, FI-00130 Helsinki
Yliopistonkatu 58 D, FI-33100 Tampere
Tel. +358 2 333 9530
Fax +358 2 333 8686
utu.fi/ffrc
tutu-info@utu.fi, firstname.lastname@utu.fi